

1:19-cv-00639-RB-JFR

Dennis Murphy, as Personal Representative of the Estate of Daniel Turner, deceased, et al., v. The City of Farmington, et al.

John Stein, M.D.

September 15, 2020

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO
NO. 1:19-cv-00639-RB-JFR

DENNIS MURPHY, as Personal Representative
of the ESTATE OF DANIEL TURNER, deceased,
and WALTER and TAMARA TURNER,

Plaintiffs,

vs.

THE CITY OF FARMINGTON, et al.,

Defendants.

DEPOSITION OF JOHN STEIN, M.D.
BY ZOOM VIDEO

Tuesday, September 15th, 2020
9:00 a.m.

WIGGINS, WILLIAMS & WIGGINS, P.C.
1803 Rio Grande Boulevard, Northwest
Albuquerque, New Mexico 87104

PURSUANT TO THE FEDERAL RULES OF CIVIL
PROCEDURE, this deposition was:

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EXHIBIT

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A P P E A R A N C E S

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(No exhibits marked)

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MS. WILLIAMS: Nick, do you agree that this deposition can be taken remotely and that the court reporter doesn't need to be in the room with Dr. Stein?

MR. NICK DAVIS: I do.

MS. WILLIAMS: Okay. Dr. Stein, I'm Patti Williams. I represent the City of Farmington in this lawsuit. So I have a lot of questions for you today, and Michele will swear you in.

THE WITNESS: Good morning.

MS. WILLIAMS: Good morning.

JOHN STEIN, M.D.,

having been first duly sworn, testified as follows:

E X A M I N A T I O N

BY MS. WILLIAMS:

Q. Dr. Stein, how many times have you been deposed?

A. Approximately 20.

Q. Okay. I'm not going to go over the rules, then, because we have limited time today, and we have a lot of ground to cover. But Michele is writing everything down, and so we just need to get a good record and be aware that that's what we're trying to do today.

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I've reviewed your resume, and I wanted to know how you would describe the focus of your research activities.

A. Generally, they involve technology implementation in the emergency care environment.

Q. I notice that you have several presentations on ultrasound and ectopic pregnancy. Is that a particular interest of yours?

A. Yes.

Q. I also noticed, looking at your list -- and sometimes the names don't help us laypeople very much, but do you have any publications on cardiac arrest?

A. I don't believe so. I did work with some cardiologists on a number of studies, but that wasn't really the focus.

Q. Okay. Do you have -- I saw that you had an albuterol study or two. Do you have other studies on breathing and ventilation?

A. No. Those would definitely be the highlights.

Q. Do you have any publications or have you done any research on in-custody deaths?

A. No.

Q. Have you done any research on acidosis?

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A. Not as a -- I'm sure something pertains to acidosis, but nothing specifically on acidosis, that I can recall.

Q. Have you done an evaluation of weight force impacts on ventilations?

A. No.

Q. Okay. Those are the periods that -- those are the topics that I was looking at. Have you done any continuing medical education in those topics?

A. Well, acidosis is a topic that is virtually ubiquitous within medicine. So I would have to say that, yes, many topics have arisen regarding acidosis. I wouldn't say that I've had a specific

CME on any of those other fairly narrow topics.

Q. Have you done research in any of those topics, not just publications but research that was unpublished?

A. No.

Q. Okay. Thanks.

Your research has been focused on ER populations, correct?

A. Yes.

Q. Is that a different population than a population in the field, if you know what I mean by that, that law enforcement or EMTs or paramedics

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1 would come across, outside of the hospital context?

2 A. I'm not sure I completely understand, but
3 every EMS patient becomes my patient.

4 Q. But have you done the encounters outside of
5 the hospital setting? What's your experience outside
6 of the hospital setting with those patients?

7 A. Yeah, I was also an EMT.

8 Q. For how long?

9 A. Two to three years. I can't quite recall.

10 It was at the end of college.

11 Q. And where was that?

12 A. That was in Upstate New York.

13 Q. Were you on a rescue unit?

14 A. Yes.

15 Q. Did you have experience working in
16 conjunction with law enforcement officers in that
17 role?

18 A. Yes. Law enforcement is a regular part of
19 emergency care.

20 Q. So have you ever worked in law enforcement?

21 A. No.

22 Q. And have you had any training in law
23 enforcement?

24 A. No.

25 Q. Have you ever worked with training law

1 education?

2 A. No.

3 Q. Have you ever trained law enforcement
4 officers in positional asphyxiation?

5 A. No.

6 Q. Have you ever trained law enforcement
7 officers in the recovery position?

8 A. No.

9 Q. What's your experience with safety
10 protocols for people on a scene like Daniel Turner,
11 whom I'm going to describe as an agitated
12 methamphetamine user during the course of this
13 deposition? Is that a fair description of his state?

14 MR. NICK DAVIS: Form.

15 A. Yes.

16 Q. What's your experience in the safety
17 protocols for people like that during an EMT call?

18 MR. NICK DAVIS: Object to the form.

19 A. If you are asking if I have formed any
20 protocols, I have not been involved in forming any
21 protocols.

22 Q. I understand that, but what's your
23 experience as an EMT? Is it your understanding that
24 the EMTs need to subdue and make the scene safe, or
25 is that the law enforcement officers' duty?

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1 enforcement officers on first responder care?

2 A. No.

3 Q. What's your understanding of the
4 relationship between law enforcement and EMT
5 paramedics at a scene?

6 A. They are responsible for the police work,
7 and the EMS is responsible for the medical work.

8 Q. So your training indicates that the police
9 officers are not medically trained professionals,
10 correct?

11 MR. NICK DAVIS: Form and foundation.

12 A. I can't say with certainty, but it's my
13 experience that, typically, they require basic
14 life-saving skills, such as CPR certifications,
15 et cetera.

16 Q. Have you ever trained law enforcement
17 officers on CPR?

18 A. I may have. I don't know. I did some CPR
19 training for a while in medical school, and maybe
20 there were some police officers there. I don't know
21 for sure.

22 Q. So a law enforcement officer could have
23 been in a class you offered, but have you ever been
24 retained by a department to train a class of law
25 enforcement officers as part of their continuing

1 MR. NICK DAVIS: Object to form.

2 A. It's the law enforcement --

3 THE WITNESS: Sorry about that.

4 A. I would say, typically, that's the law
5 enforcement territory.

6 Q. What obligations does the law enforcement
7 agency have for scene safety in a first responder
8 call?

9 MR. NICK DAVIS: Object to the form,
10 foundation.

11 A. I don't know that I have any awareness of
12 any specifics of their responsibility.

13 Q. Okay.

14 A. From a medical provider's perspective, we
15 are relying on the police to assess the safety and to
16 provide ongoing safety for the medical response.

17 Q. Does that sometimes include the use of
18 restraint?

19 A. Yes.

20 Q. How many times have you testified in court,
21 Doctor?

22 A. I believe, three times.

23 Q. In each of those cases, were you an expert
24 in the standard of care, or were you qualified as an
25 expert in another area?

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1 exchange?

2 A. They provided the documents, and they
3 seemed rather exhaustive. So I felt that I had all
4 of the documents that I needed to review.

5 Q. So, to date, there's nothing that you
6 wished that you had access to that you didn't have
7 access to in this case in order to make your
8 opinions?

9 MR. NICK DAVIS: Object to the form.

10 A. Not that I'm aware of.

11 Q. And you're not waiting to review anything
12 else, correct?

13 A. No. In my experience, things do evolve
14 over time. So perhaps there will be something else
15 to review, such as other depositions, but at this
16 point in time, I don't -- I'm not aware of anything
17 else that I would need to make my judgments.

18 Q. Okay. Thanks.

19 Have you made plans to attend the trial in
20 this case in April of next year?

21 A. Yes.

22 MR. NICK DAVIS: Correction. March.

23 MS. WILLIAMS: You are right. March. It's
24 like when Trump said vote on November 28th.

25 Q. Sorry. That's not what I was trying to do,

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1 Q. Are all of your active cases cases that
2 involve claims of medical malpractice?

3 A. That certainly is the majority.

4 Q. Can you tell me the names of one or two
5 cases in which the issue was not medical malpractice
6 in which you offered opinions?

7 A. I'd have to take a look at my files, here.

8 Q. I'm okay if you take that time.

9 A. Okay.

10 Okay. Generally speaking, reviewing my
11 list of deposition testimony, they seem to mostly
12 fall into that category. I'm not sure if I have any
13 that don't.

14 Q. And you're not finding any outliers,
15 looking at your list? I know it's a quick review,
16 but --

17 A. No, not -- no, I don't believe so.

18 Q. If you think of one during this deposition
19 that did not just involve claims of medical
20 malpractice, will you let me know?

21 A. Okay.

22 Q. Because this will probably be the only time
23 we will have a chance to talk.

24 A. Sure.

25 Q. I understand that you rate cases during

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1 Doctor. I'm not that tricky.

2 Are you working on any other cases in
3 New Mexico, currently?

4 A. I'm sure that I am.

5 Q. Can you call them out for me?

6 A. No, not without some kind of search of my
7 computer.

8 Q. How many active cases do you have at a
9 time, Doctor, in which you're offering expert
10 testimony?

11 A. You know, to be honest, it's always a
12 little hard for me to tell which ones are active,
13 because I just wait for the attorneys to call me and
14 request help. I would estimate that I often have
15 somewhere between five and ten cases that are,
16 quote-unquote, "active."

17 Q. Do you recall any in New Mexico, currently?

18 A. I definitely work with other attorneys in
19 New Mexico.

20 Q. In Albuquerque or in other cities?

21 A. I would believe that most of them are in
22 Albuquerque.

23 Q. Do you keep a list of cases that you're
24 currently working on?

25 A. Not that I'm currently working on.

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1 your review on a one-to-ten scale. Is that the case?

2 A. Sometimes.

3 Q. Did you rate this case on a one-to-ten?

4 A. Not that I recall.

5 Q. If you were rating it today, how would you
6 rate this case on your one-to-ten scale? And I
7 understand that one is the best -- the worst-case
8 scenario for the plaintiff, and 10 is the best-case
9 scenario for the plaintiff, right? Or is that
10 opposite?

11 A. These discussions are always a little bit
12 different from attorney to attorney, but I would rate
13 this as a highly favorable case from the plaintiff's
14 perspective.

15 Q. And why do you make that rating?

16 A. Because the medical facts in the case seem
17 fairly straightforward to me.

18 Q. What are the plaintiff's strengths in this
19 case, from the medical perspective --

20 MR. NICK DAVIS: Form and foundation.

21 Q. -- on which you've been retained to opine?

22 A. So I would say that the medical facts in
23 this case that are strong for the plaintiff are that
24 we had a patient who was very typical for emergency
25 medical practice and in no way, shape, or form

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<p style="text-align: right;">Page 18</p> <p>1 appeared to me to be in a lethal condition, and</p> <p>2 within several minutes of police interaction, the</p> <p>3 patient was dead. There's a very common reason why</p> <p>4 that happened, and it appears that this has to do</p> <p>5 with the ventilatory function, as I mentioned in my</p> <p>6 prepared statement.</p> <p>7 This is something that is common in</p> <p>8 emergency practice, that people can deteriorate very</p> <p>9 rapidly from a lack of ventilatory function, and that</p> <p>10 appears to have happened exactly in this case, with</p> <p>11 adequate time for the police officers to place the</p> <p>12 patient out of that harmful position.</p> <p>13 Q. What other strengths do you believe the</p> <p>14 plaintiff's case has from the medical perspective in</p> <p>15 the opinions that you've formed?</p> <p>16 A. I also feel that the patient, Mr. Turner,</p> <p>17 was evaluated by an autopsy report, and the autopsy</p> <p>18 report, by a separate, independent physician, came to</p> <p>19 essentially the same conclusions that I would have</p> <p>20 from a clinical perspective.</p> <p>21 Q. Have you ever had a patient present in the</p> <p>22 ER who looked all right and not near death and then</p> <p>23 died within minutes?</p> <p>24 A. Yes.</p> <p>25 Q. What are the weaknesses in the plaintiff's</p>	<p style="text-align: right;">Page 20</p> <p>1 typically from their own mouth. So, a lot of times,</p> <p>2 I don't know what their symptoms are.</p> <p>3 Q. And then you do a differential diagnosis?</p> <p>4 A. Eventually, yes.</p> <p>5 Q. In an emergency room setting, with a</p> <p>6 patient like Daniel Turner, what do you do first if a</p> <p>7 patient is agitated and appears to be under the</p> <p>8 influence of methamphetamines?</p> <p>9 A. Typically, we try to get them to calm down.</p> <p>10 Q. How do you do that?</p> <p>11 A. Sometimes talking works great. Frequently,</p> <p>12 we use medications to help reduce their agitation, to</p> <p>13 sedate them.</p> <p>14 Q. What medications are usually used in a</p> <p>15 situation with this type of patient, an agitated meth</p> <p>16 user in an emergency room setting?</p> <p>17 A. There's a variety of medications that can</p> <p>18 be used, but frequently we use a benzodiazepine, or</p> <p>19 we use antipsychotic medication, like Haldol or</p> <p>20 Geodon. Those would be some of the most frequently</p> <p>21 used medications.</p> <p>22 Q. What is the effect of that medication on</p> <p>23 the person's behavior, Doctor?</p> <p>24 A. It's calming. So it typically allows</p> <p>25 someone who is very agitated to reduce their muscle</p>
<p style="text-align: right;">Page 19</p> <p>1 case from your perspective?</p> <p>2 A. I'm not aware of any of them, if any.</p> <p>3 Q. As an ER provider, does the lack of</p> <p>4 independent knowledge of a patient's medical</p> <p>5 condition affect the first 10 minutes of your</p> <p>6 interactions with them?</p> <p>7 A. I'm not completely sure I understand your</p> <p>8 question, but I almost never know the patient's</p> <p>9 background when I interact with them.</p> <p>10 Q. So the first few minutes of your</p> <p>11 interaction are trying to determine if they have</p> <p>12 chronic conditions, what their symptoms are, how</p> <p>13 they've presented in your emergency room, correct?</p> <p>14 A. Not necessarily. The first several minutes</p> <p>15 are spent assessing the clinical situation and trying</p> <p>16 to perform actions that provide ongoing and improved</p> <p>17 stability for the medical condition.</p> <p>18 Q. You have to do an evaluation, right, first?</p> <p>19 A. Yes.</p> <p>20 Q. And you try to get a history, if you can,</p> <p>21 right?</p> <p>22 A. If it's possible, yes.</p> <p>23 Q. And you have to evaluate the symptoms that</p> <p>24 they're manifesting?</p> <p>25 A. If I'm aware of their symptoms. That's</p>	<p style="text-align: right;">Page 21</p> <p>1 activity, reduce their overall metabolic rate, and to</p> <p>2 be calm and, quite honestly, less threatening to our</p> <p>3 healthcare environment.</p> <p>4 Q. And that's an important factor, that you</p> <p>5 can't treat a patient who is dangerous to themselves</p> <p>6 or the healthcare providers, you included, correct?</p> <p>7 A. Yes, I agree.</p> <p>8 Q. In some situations in the emergency room,</p> <p>9 is a patient like Daniel Turner restrained?</p> <p>10 A. Yes, definitely.</p> <p>11 Q. How do you go about doing that in an ER</p> <p>12 setting?</p> <p>13 A. I'm not exactly sure what you mean. I</p> <p>14 mean, are you --</p> <p>15 Q. Do you use handcuffs? Do you use bed</p> <p>16 restraints? Do you use people? How do you restrain</p> <p>17 someone in an emergency room setting who is agitated</p> <p>18 and a danger to themselves or medical staff?</p> <p>19 MR. NICK DAVIS: Form.</p> <p>20 A. Okay. I understand. So now we typically</p> <p>21 get kind of a large group of people, and we approach</p> <p>22 the patient and grab him by his arms and extremities,</p> <p>23 typically and, like you say, restrain him to the bed</p> <p>24 in the -- on their back.</p> <p>25 Q. Okay.</p>

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1 A. So that's the process that we use.
 2 Q. How often do you have to do that in your
 3 job, Doctor? Is that a weekly occurrence? A daily
 4 occurrence? Monthly?
 5 A. Probably in the weekly range. I'm not sure
 6 it's quite daily, but it seems like it's daily.
 7 Q. Is that before or after you have the
 8 opportunity to medicate the patient?
 9 A. Both.
 10 Q. Now, the effect of the benzodiazepine or
 11 the restraint, does it have the same effect as the
 12 handcuffing and restraint that was applied to
 13 Daniel Turner on the cardiac function of the
 14 individual?
 15 A. It should not, no.
 16 Q. It should not? Doesn't sedation decrease
 17 cardiac function, slow it down?
 18 A. Not in a substantial way.
 19 Q. I'm unclear how restraint in the field and
 20 restraint in the emergency room don't have the same
 21 effect on cardiac function. Can you explain that to
 22 me?
 23 A. So, for a cardiac function to be
 24 operational, you'd have to have the correct metabolic
 25 milieu, and so when you -- and we're -- I'm talking

1 Mr. Turner, the first being when Officer Prince
 2 arrived on the scene. Okay? At that time, what was
 3 Daniel Turner's blood pH?
 4 MR. NICK DAVIS: Object to foundation.
 5 A. I don't know. I can say that, more likely
 6 than not, it was very low.
 7 Q. What evidence do you have of that?
 8 A. I have evidence from published literature,
 9 as well as extensive personal experience in the
 10 Emergency Department with similar patients.
 11 Q. Tell me what literature you are relying on
 12 to say, when Officer Prince arrived at the scene,
 13 that Daniel Turner's blood pH was low, very low.
 14 MR. NICK DAVIS: Object to the form.
 15 A. A nice case series was published in the
 16 Academic Emergency Medicine Journal by Arthur Hick,
 17 H-i-c-k, and the title is "Metabolic acidosis in
 18 restraint-associated cardiac arrest: a case series."
 19 Q. What year was that published?
 20 A. 1999.
 21 Q. Were you familiar with that before you were
 22 retained in this lawsuit?
 23 A. I wasn't familiar with that particular
 24 research, no.
 25 Q. When you say the blood pH was very low in

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1 specifically about this patient's scenario. Is that
 2 what you're referring to?
 3 Q. Yes, sir.
 4 A. So patients who are this agitated,
 5 described as being able to lift the police officer
 6 off their legs, are very acidotic. That's well
 7 understood in the medical literature. In order to
 8 manage that acidosis, which is life-threatening, one
 9 has to be able to breathe freely.
 10 And so, when restraining someone, you have
 11 to be able to leave the patient able to freely
 12 breathe to their maximal potential, because they are
 13 maximally adjusting their metabolic situation using
 14 their respiratory effort, and so placing them on
 15 their back and restraining their arms to the bed is a
 16 way of doing that that allows the ventilatory effort
 17 to continue.
 18 Q. Let's talk about that. I appreciate your
 19 answer. If you know that the patient, who is
 20 struggling like Daniel Turner, fighting, and
 21 self-harming -- do you know what his blood pH is?
 22 A. I usually have a pretty good guess.
 23 Q. So let's talk about that. I want to talk
 24 about three different times in the encounter, the
 25 few-minute encounter that law enforcement had with

1 Daniel's case here, what would you guess his pH would
 2 be?
 3 A. I would guess it would be in the range of
 4 seven or lower.
 5 Q. At the time that Daniel Turner was
 6 handcuffed, do you know what his blood pH was?
 7 A. I would have to say --
 8 MR. NICK DAVIS: Object to the form.
 9 Q. I didn't hear your answer, Doctor.
 10 A. I would have to say an estimate.
 11 Q. Very low?
 12 A. Yes.
 13 MR. NICK DAVIS: Object to the form.
 14 Q. Based on the same published research and
 15 your experience in an emergency room?
 16 A. Yes.
 17 Q. Any other literature or data that you're
 18 relying on to make that conclusion?
 19 A. Not that I could point to. But this is a
 20 frequently discussed topic in emergency medicine, so
 21 this is fairly basic knowledge.
 22 Q. So at the time that Daniel Turner was
 23 handcuffed, what would you think his pH level was?
 24 A. I would estimate the same range as I
 25 provided before.

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1 Q. Less than seven?

2 A. Yes.

3 MR. NICK DAVIS: Object to the form.

4 Q. Do you know how much time elapsed between
5 the time Daniel Turner was handcuffed and the time
6 that the officers started CPR?7 A. Approximately five minutes. Four to five
8 minutes, somewhere in that time frame.9 Q. At the time the officers started CPR, what
10 do you believe Daniel's pH level was?11 A. I still would estimate it would be in the
12 same range as I provided before.

13 Q. Very low?

14 A. Yes.

15 MR. NICK DAVIS: Object to form.

16 Q. When do you believe that Daniel Turner's pH
17 level rose?18 A. I don't think there's any time that his pH
19 level rose.20 Q. When do you think it dropped to a lethal
21 level?22 A. I think it dropped to a lethal level
23 shortly after he was placed in the prone position and
24 was unable to maximally ventilate and get rid of the
25 carbon dioxide that was the process that was formerly

1 are they tied in with the blood pH?

2 MR. NICK DAVIS: Object to form.

3 A. They affect the blood pH.

4 Q. What do you believe Daniel Turner's CO
5 level was when Officer Prince arrived on the scene?6 A. That's very difficult to estimate, but what
7 I would say is that he was adequately compensating
8 for his acidosis at that time.9 Q. Will you say that for the time period when
10 Daniel Turner was handcuffed, as well?11 A. Yes. He was still compensating
12 appropriately at that time.13 Q. When did he become, in your estimation and
14 what you can describe on the tape, unable to
15 compensate for his CO2 levels?16 A. It seems fairly obvious to me that, when he
17 is handcuffed, he is still struggling greatly.18 As I mentioned, the police officer
19 described that he was lifted off the patient's leg at
20 that time. And as the minutes and second tick
21 onwards, you can see less and less movement, to the
22 point where there is no movement for an extended
23 period of time, and then the officers start to
24 question whether the patient is breathing or not.

25 Q. And what's the time frame for that, going

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1 saving his life.

2 Q. Okay. You've evaluated the tape? You've
3 watched the video, correct?

4 A. Yes.

5 Q. Do you believe that Daniel Turner's levels
6 were lethal when he was handcuffed?

7 A. No.

8 Q. Do you believe his levels were lethal when
9 they started CPR on him?

10 A. Yes.

11 Q. What signs would have been evident to the
12 officers that the pH level was dropping?13 A. That the patient had decreasing movement
14 and decreasing respiratory effort.15 Q. Is it key that Daniel at some point was
16 fighting and then stopped fighting? Is that a
17 watershed moment for your evaluation?

18 MR. NICK DAVIS: Object to the form.

19 A. Yes. Yes, that's exactly my point, that as
20 one is losing the battle against this acidosis, one
21 will reduce their movements, which includes their
22 respiratory effort.23 Q. Do you have the same opinions regarding CO2
24 levels for Daniel? Let's go through those. Are
25 those considered in your cause-of-death analysis, or1 from struggling and fighting and lifting an officer
2 off the ground to stopping moving? Did you look at
3 that on the tape?4 A. It's roughly in the mid-portion of that
5 previous time frame I mentioned. So it, you know,
6 took about -- I don't know the exact time. Possibly
7 five minutes from handcuffing to CPR, four to five
8 minutes, and half of that time, he appeared to be
9 still struggling.10 Q. In your experience in the emergency room,
11 once you get a person restrained who is in this
12 state, with your group of people on a bed with
13 restraints, do they stop struggling?14 A. I'm sorry. I thought you were going
15 somewhere differently with that question. Could you
16 say it again?17 Q. In your experience in the ER, you described
18 what you do if you have to restrain an individual who
19 is agitated and in excited delirium. Would you agree
20 that Daniel Turner was in excited delirium?

21 MR. NICK DAVIS: Object to form.

22 A. That's not really a term we use a lot in
23 the Emergency Department. I don't object to that
24 terminology necessarily, however.

25 Q. Well, I'm happy to use your term. What

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1 activity, contractions, and those things which would
2 cause a buildup of acidosis?

3 A. Well, we -- I think that, the position that
4 Daniel Turner was in, then that would lead to a
5 correct statement. When we restrain them on their
6 back and their hands are still fairly loose, we don't
7 typically think of that as being a major inhibitor to
8 their breathing function.

9 Q. And the point of administering the
10 medication is to slow their breathing, correct?

11 A. No.

12 Q. No? What is the point?

13 A. The point is to get them to reduce their
14 muscular activity so that they're not so agitated and
15 dangerous so that we can appropriately take care of
16 them.

17 Q. And restraint is a method to reduce
18 muscular activity, correct?

19 A. No.

20 Q. It is not?

21 A. No. Patients struggle vigorously with
22 restraints.

23 Q. And is that your experience when you
24 restrain someone in the emergency room setting?

25 A. Yes.

1 know if there's a continuum of movement when it
2 becomes dangerously low. I mean, if we were watching
3 the tape, could you tell me, "That's the point where
4 his pH is dangerously low and at a lethal level"?

5 A. Potentially, yes. What would happen if
6 someone was not entering a dangerously low level is
7 they would essentially continue to struggle and
8 strain. That happens routinely.

9 What happened in this particular case is
10 the patient was vigorously straining at the
11 beginning, and then he, slowly but surely, diminishes
12 all of his muscular movement. So, whence that
13 muscular movement starts to diminish and his
14 breathing starts to deteriorate, that's when he's
15 losing the battle against his acidotic condition, and
16 he is literally starting to die at that point.

17 Q. So your opinion is based on your belief
18 that, at that point that you've just described, when
19 he stops moving, his acidosis level was so low that
20 he died, correct?

21 MR. NICK DAVIS: Object to the form.

22 A. That's close. I mean, yes, that's a
23 very --

24 Q. If I'm misstating it, I don't want to do
25 that. So if you can tell me what the opinion is --

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1 Q. Is that why you have the ability to also
2 administer benzodiazepines in that setting?

3 MR. NICK DAVIS: Object to the form.

4 A. Sure. We are the ER. We have a full range
5 of abilities to take care of patients in emergency
6 conditions.

7 Q. And the law enforcement officers in the
8 field don't have that full range of tools to do the
9 same medical interventions in a parking lot, do they?

10 A. I agree.

11 MR. NICK DAVIS: Form and foundation.

12 Q. I didn't hear your answer, Doctor.

13 A. I agree.

14 Q. I do want to go back to your analysis of
15 Daniel Turner's pH level and CO2 levels at various
16 points in his encounter with the officers. It wasn't
17 that long ago. So are you good with backtracking, a
18 little, there?

19 A. Sure.

20 Q. When did Daniel Turner's pH level become
21 dangerously low, in your opinion?

22 A. As he diminished his agitation and muscle
23 activity and breathing.

24 Q. At the beginning of that diminishment or
25 the end? I mean, I don't understand how you would

1 because I'm going to probe it, a little. If that's
2 not a correct statement, help me out, please.

3 A. No. I do think that's a correct statement.
4 It's a little more complicated than that, but that is
5 a correct statement. I agree.

6 Q. Is this a similar scenario to what you see
7 in the emergency room with people in diabetic
8 ketoacidosis, DKA?

9 A. Yes, that's a fair example.

10 Q. And that's what you see in an emergency
11 setting, correct?

12 A. Yes.

13 MR. NICK DAVIS: Object to the form.

14 Q. Is there any data -- what other settings in
15 the emergency -- what other conditions in the
16 emergency room could result in this same scenario of
17 a quickly lowering pH blood gas that results in death
18 in minutes?

19 A. So there's a huge number of scenarios.

20 Every emergency physician has seen these scenarios
21 play out on countless occasions.

22 So any situation where your body's
23 metabolic demands are rapidly increasing is going to
24 produce an acidosis. So that can be in a major
25 trauma. That can be in a major blood loss scenario.

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1 That can be in severe asthma. You mentioned diabetic
2 ketoacidosis.

3 Q. Uh-huh. How about sepsis?

4 A. Sepsis, as well. Some people can become
5 quite acidotic. But I'll be honest. They don't
6 quite get -- they usually don't get as acidotic as
7 these patients who are severely agitated.

8 Q. Do you find that patients with major trauma
9 get agitated, or are they too shocky to do that?

10 A. There is often a period of time when they
11 can become quite agitated, when they are -- people
12 are deteriorating from a mental perspective and
13 their -- you know, when their body functions are no
14 longer working well. Also, obviously, sometimes
15 people get hit in their head or have trauma to their
16 head. So there's lots of times when trauma patients
17 are agitated.

18 Q. How about major blood loss? The same
19 answer, that you do see some agitation for some
20 period of time?

21 A. That can happen for sure, as well, yes.

22 Q. How about septic patients?

23 A. The same. I agree. I agree.

24 Q. Is there any data, studies, or research
25 regarding acidosis in agitated meth users in the

1 acidosis that is generated within your body's systems
2 and the relief valve from your lungs is very similar.

3 Q. If Daniel Turner had been in an emergency
4 room setting, how would you have gone about reducing
5 his acidosis?

6 A. So there's a couple of ways that we can do
7 that. In an ideal situation, and actually one that
8 happens pretty frequently, we use a rapidly acting
9 medication, as we've discussed, and the patient will
10 calm themselves down. And so their metabolic demands
11 reduce, and then they are able to use their own lung
12 function to adjust to the situation.

13 There's nothing that is better than the
14 patient's own physiology to improve the situation.
15 Okay. However, there are times when I simply can't
16 control the situation using that methodology, and so
17 it's not infrequent that I have to completely take
18 over that patient's function, and I will paralyze
19 them with medication.

20 Q. What medication? Are you talking Haldol or
21 something more --

22 A. These would be actual paralytic drugs.
23 Like, succinylcholine or rocuronium would be the two
24 most commonly used medications, and the patient is
25 literally paralyzed, including their breathing, and I

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1 field?

2 A. I think I referred you to an excellent
3 article.

4 Q. The Hicks article?

5 A. Yes.

6 Q. Anything else that you're relying on?

7 A. Nothing else that I'm relying on, besides
8 my experience. But I'm sure there's some other -- he
9 references many other similar articles.

10 Q. Did you read the background articles that
11 he referred to in his 1999 article?

12 A. No.

13 Q. Okay. So the Hicks article is what you're
14 relying on regarding your opinions on the acidosis
15 levels in an agitated meth user in the field in this
16 case?

17 A. What I'm mostly relying on is my own
18 experience, but to provide a nice, excellent
19 literature example, I've provided that, that paper.

20 Q. Is the metabolic mechanism the same,
21 whether the patient is a meth user or DKA sufferer or
22 involved in major trauma?

23 A. You know, there are some slight variations
24 in the mechanisms, for sure, but the overriding or
25 the fundamental mechanism between battling the

1 have to intubate them and take over their respiratory
2 function in order to alleviate that situation.

3 Q. In the emergency room setting, how often do
4 you have to resort to the paralytic option?

5 A. Where I currently practice, it's not quite
6 as common as when I was in the kind of inner city
7 population. Probably now, I would say once a month,
8 something like that, 10 times a year.

9 When working in a large urban setting, it's
10 much more frequent.

11 Q. Once you resort to that methodology, the
12 patient is completely medically at your control,
13 correct?

14 A. Yes.

15 Q. And then how long does it take for the
16 patient's acidosis to resolve, once you have
17 intubated and ventilated them?

18 A. That's highly variable. It sort of depends
19 on where we started and what the underlying process
20 is. Are there any other complicating factors?

21 Q. Is it minutes or hours, or what? I don't
22 know the time frame, generally. Is it --

23 A. So it can be both. It can be very easy to
24 fix someone's acidosis. Sometimes we check as
25 frequently as every 10 minutes on their blood gas

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<p style="text-align: right;">Page 42</p> <p>1 levels, sometimes even faster. But, you know, 10 2 minutes is kind of a reasonable time check, 3 sometimes. So one can fix that fairly quickly. 4 Sometimes it takes much longer, though. 5 Q. Is there any data -- and I don't know if 6 this is in the Hicks article or not -- that shows the 7 pH values of an agitated meth user in the field, 8 where they should be? 9 A. Yes. That Hicks article does reference 10 five cases where they did measure the pH levels. 11 Q. In the field? 12 A. In the field or shortly after arrival to 13 the Emergency Department. 14 Q. Were they above 7.4? 15 A. No. They were well below. 16 Q. Were they below seven? 17 A. Yes. All of them were below seven, I 18 believe. 19 Q. Is there a way in the field to determine 20 what a blood gas pH level is? 21 A. As I said, this is not difficult to guess, 22 what the pH level would be, but one cannot obtain the 23 actual value without measuring the blood. 24 Q. Is an EMT rig set up to allow blood gas 25 tests?</p>	<p style="text-align: right;">Page 44</p> <p>1 level in the field? 2 A. Not if you want to actually have the 3 number. 4 Q. Is there any way for the first responder, 5 including a law enforcement officer, to check the CO2 6 value, which I know, you said, is not a great 7 correlation? But there could be some information 8 gathered in the field? 9 A. In the field, you can use the end-tidal 10 carbon dioxide monitor. 11 Q. But I think you've indicated that that 12 doesn't necessarily give you a good correlation in 13 this situation? 14 A. I don't think it's going to correlate well 15 with the pH. That would be a hard interpretation to 16 make. 17 Q. Okay. Let's talk a little bit about the 18 incident in the Durango Joe's parking lot in 19 Farmington, New Mexico. That incident was before 20 there was any opportunity to triage, medically 21 triage, Daniel Turner, correct? 22 A. Yes. 23 MR. NICK DAVIS: Object to the form. 24 Q. And that incident occurred before any 25 medical history was taken by any medical</p>
<p style="text-align: right;">Page 43</p> <p>1 A. No. 2 MR. NICK DAVIS: Foundation. 3 A. They only have an indirect, where they can 4 measure the end-tidal CO2. 5 Q. And there's a correlation between the CO2 6 and the pH? 7 A. Do you hear somebody else on the -- 8 Q. I do. It's not in our top set here, but -- 9 A. Is there a correlation? There's not a 10 great correlation, unfortunately. There are some 11 instances where it can be highly effective. This is 12 not one of those situations. 13 Q. Is there any data showing, and I think you 14 just answered this question, what the CO2 value should 15 be in a meth user who is agitated in the field? 16 A. I guess I would say my answer for that is 17 that I don't have a good answer for you there, 18 because the values are always in response to the pH, 19 and so it's the pH that's important. The 20 compensation happens, but because of different levels 21 and different metabolic circumstances, a different 22 level of carbon dioxide can achieve kind of a widely 23 different range of pH levels. 24 Q. Is there any way for a law enforcement 25 officer or other first responder to determine a pH</p>	<p style="text-align: right;">Page 45</p> <p>1 professional, correct? 2 A. By a medical professional, yes. 3 Q. And it was before any medical screening 4 exams could be taken, correct? 5 A. I believe the officer tried to do what I 6 would say was a medical screening exam. 7 Q. Do you know what his training in medical 8 screening exams would have been? 9 A. No, but he tried to obtain some medical 10 data, and so that seems to be a medical screening 11 exam, from my perspective. 12 Q. By asking Daniel -- what questions do you 13 consider to be medical screening? 14 A. Oh, I just remember him asking the family, 15 you know, "What happened?" and, "Is he on any drugs?" 16 and, "Are there health problems?" That kind of 17 thing. 18 Q. In your opinion, is it reasonable for law 19 enforcement first responders to wait, to defer to 20 EMTs or paramedics who are en route to the scene, 21 when possible? 22 MR. NICK DAVIS: Object to the form. 23 A. Like I said, I'm not really much of an 24 expert on police activities or procedures, but 25 that's -- it seems like a reasonable statement that</p>

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1 A. No.
 2 Q. Toxic levels of meth?
 3 A. No, we don't, because we're actually
 4 working with the living, so to speak. So we're
 5 working with -- much more on the pH side of things.
 6 The other metabolic studies that we use are what we
 7 gauge the effects by.
 8 Q. So this is not an analysis that you use in
 9 your everyday practice, right, the toxic levels of
 10 methamphetamine?
 11 A. That's correct.
 12 Q. Of those meth users who present in your
 13 emergency room in an agitated state or altered mental
 14 state, how many times does that condition result in
 15 death, regardless of your attempts to intervene?
 16 A. I'd say I could count that, in 20 years, on
 17 one hand.
 18 Q. So less than five in 20 years?
 19 A. Yes.
 20 Q. Now, going back to the lactic acid
 21 functions in a person on meth, do the drugs
 22 themselves raise the lactic acid functions?
 23 A. I would say I'm not -- I don't think I can
 24 answer that question. Not that I'm aware of. I'm
 25 aware that the lactic acid production is because of

1 from their lungs to allow the release of carbon
 2 dioxide, which counteracts the production of acid.
 3 Q. Does that mean that athletes, people who
 4 have trained to increase their ventilation,
 5 ventilatory function, have a better chance of
 6 surviving a raise in lactic acid functions?
 7 A. I'm not an expert in exercise physiology,
 8 so I'm not sure I could answer that question.
 9 Q. So if struggling, increased motor function,
 10 muscle contractions, and agitation all raise lactic
 11 acid function, handcuffing would reduce agitation,
 12 struggling, increased motor function, and muscle
 13 contractions, correct?
 14 MR. NICK DAVIS: Object to the form.
 15 A. No, I disagree with that.
 16 Q. Why is that?
 17 A. Because it doesn't matter whether your
 18 muscles are actually moving or not. You can push
 19 against a wall and not move it, and you're still
 20 using your muscles, and you are still creating lactic
 21 acid.
 22 Q. Is that the same answer for restraint?
 23 A. Yes.
 24 Q. Are you relying on any literature or just
 25 your experience in the emergency room to draw that

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1 the increased muscle activity and the agitation.
 2 Q. So agitation would raise lactic acid
 3 function in a person on meth?
 4 A. Yes, in any person. So anybody who is
 5 running a marathon or even just exercising in their
 6 garage is going to produce lactic acid. That's why
 7 you get that burning feeling in your muscles when
 8 you're using them. That's the lactic acid.
 9 So, during normal periods of exertion and
 10 even fairly extreme periods of exertion, like running
 11 a marathon, your body produces this lactate, this
 12 lactic acid, but it compensates by getting rid of
 13 carbon dioxide so that you can maintain your acid
 14 base level in the body.
 15 Q. So struggling, increased motor function,
 16 and muscle contraction all increase lactic acid
 17 functions in a person on meth or a regular person,
 18 not on meth?
 19 A. Correct, anybody.
 20 Q. Okay. I know the first person who ran a
 21 marathon in ancient Greece actually died. Why don't
 22 people die when running marathons?
 23 A. They generally -- there probably still are
 24 some people that do, but they're -- generally, one
 25 can compensate by using their ventilatory function

1 conclusion?
 2 A. Experience and common knowledge.
 3 Q. Does loss of consciousness reduce lactic
 4 acid function?
 5 A. That's a good question. Typically, that
 6 would be -- I would have to say the answer to that is
 7 yes, because once you lose consciousness, you
 8 typically are not moving anymore, and so you will
 9 reduce your lactic acid production at that point.
 10 Q. Let's talk about positional asphyxia. Do
 11 you need to take a break, Doctor? We've been going
 12 about an hour-and-a-half.
 13 A. No, I don't.
 14 Q. Okay. I just --
 15 MS. WILLIAMS: Do you need a break?
 16 Q. The court reporter, sometimes, is the one
 17 who is working the hardest today.
 18 Regarding this case, how did you determine
 19 that the subject died?
 20 A. I determined the subject died because he
 21 ended up in the coroner's lab. I'm not sure I
 22 understand your question.
 23 Q. Did you assume restraint asphyxia as the
 24 cause of death? Cardiac arrest as the cause of
 25 death? What -- how did he die?

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1 A. So, yes, I -- he died from cardiovascular
2 collapse, and there were several contributing factors
3 to that.

4 Q. Tell me what you mean by a contributing
5 factor.

6 A. So there's a sequence of events that led to
7 his death. So it certainly started with his agitated
8 state, but it ended with him not being able to
9 compensate for his excessive lactic acid production
10 and his acidosis in his bloodstream. That's a very
11 common final pathway to death in medicine.

12 Q. When you say that is a very -- what exactly
13 do you mean when you say that is a pathway?

14 A. Having cardiovascular collapse from
15 increasing acidosis is a common final pathway. Many,
16 many people end up dying from cardiovascular collapse
17 because of their progressive acidosis.

18 Q. Is it your opinion that, but for
19 Daniel Turner's agitated state, he would not have
20 died?

21 A. Yes, I agree.

22 Q. Is it your opinion that, but for the
23 minutes of restraint, Daniel Turner would not have
24 died?

25 A. That's correct.

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1 Q. Is it your opinion that, but for the blows,
2 Daniel Turner would not have died?

3 A. I don't believe that the blows directly
4 contributed to his death. I don't see -- I don't
5 have any reason to suspect that.

6 Q. Tell me what other contributing factors you
7 opine contributed to Daniel Turner's death, besides
8 his agitated state and the fact that he was
9 restrained.

10 A. His underlying medical condition certainly
11 pertains to his death. He was described as an
12 alcoholic, and he certainly was obese. So that's a
13 risk factor. And he also has evidence of
14 cardiomyopathy, the enlarged heart. So those are
15 also contributing factors.

16 Q. Let's talk about those. Is it your opinion
17 that, but for Daniel Turner's underlying medical
18 condition, he would not have died?

19 MR. NICK DAVIS: Object to the form.

20 A. Yeah, I think it needs to be rephrased in a
21 way that makes a little more sense.

22 Q. Okay. Well, let's make sure that we're
23 talking about the same thing. And we can break down
24 the three underlying conditions that you mentioned.
25 Is that an easier way for you to answer my questions?

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1 A. Maybe.

2 Q. Okay.

3 A. I mean, they're all -- they're
4 interlocking, but we can try to break them apart.

5 Q. Is it your opinion that, but for
6 Daniel Turner's alcoholism, he would not have died?

7 A. It's the "but for" that's a little bit hard
8 for me to interpret. So are you saying that, if it
9 wasn't for his alcoholism, he would have died?

10 Q. That he would not have died. I guess
11 that's the same, you know, different sides of the
12 same coin.

13 Was alcoholism a contributing factor that
14 made it more likely than not that he was going to
15 die, given the scenario he found himself in?

16 A. I don't think in this case that was a
17 significant contributing factor. I don't see how his
18 alcoholism played a major role in his decline.

19 Q. How about his obesity?

20 A. His obesity -- you know, people who are
21 obese have underlying health problems, for sure,
22 whether they're overt or not. The obesity also adds
23 additional stress when placed in the prone position,
24 and so I do believe his obesity played a role in his
25 demise.

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1 Q. How about his cardiomyopathy?

2 A. Yes. So I think his cardiomyopathy also
3 played a role in his demise.

4 Q. Are you aware that there are medical
5 records that indicate that Daniel Turner had
6 schizophrenia?

7 A. I did see reference to that.

8 Q. Would schizophrenia have been a
9 contributing factor to Daniel Turner's death?

10 A. Only in the sense that that might be a
11 significant role for his agitated state for the last
12 three days, as I mentioned. There may be some mental
13 illness that helped contribute to his agitated state.

14 Q. How would the agitated state contribute to
15 Daniel Turner's death?

16 A. So his agitated state is what is causing
17 his metabolic system to be under significant stress.

18 Q. How would restraint have been a
19 contributing factor in his death?

20 A. So, depending on the kind of restraint, one
21 can substantially reduce the ability to exchange
22 carbon dioxide and breathe out the carbon dioxide to
23 compensate for this excessive agitation and lactic
24 acid buildup, with associated acidosis.

25 Q. How would his obesity have contributed to

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<p style="text-align: right;">Page 74</p> <p>1 actually.</p> <p>2 Q. All right. How much weight was being</p> <p>3 placed on regions that would impact ventilation in</p> <p>4 Daniel Turner's case?</p> <p>5 MR. NICK DAVIS: Form and foundation.</p> <p>6 MS. WILLIAMS: I didn't hear you, Nick.</p> <p>7 A. I'm not going to have any good answers for</p> <p>8 you on any specifics of weight. That's not something</p> <p>9 that I measured or can comment on.</p> <p>10 Q. In the video, you observed, I think you</p> <p>11 said, weight on the arms and legs, attempts to keep</p> <p>12 the weight on the extremities, correct?</p> <p>13 A. It seems -- yes, it seems like it was --</p> <p>14 there was nobody standing on Mr. Turner's back.</p> <p>15 Q. Okay.</p> <p>16 A. It seemed like they were making an</p> <p>17 attempt to be mostly on the extremities.</p> <p>18 MS. TRUJILLO: I'm sorry. I couldn't hear.</p> <p>19 Q. That's the court reporter.</p> <p>20 A. I think they were mostly trying to put</p> <p>21 weight mostly on his extremities, I think, is what I</p> <p>22 said.</p> <p>23 Q. And that's what you're trying to do when</p> <p>24 you're trying to restrain someone in the emergency</p> <p>25 room setting, as well, right?</p>	<p style="text-align: right;">Page 76</p> <p>1 to me. What happened was fairly obvious. The</p> <p>2 patient was alive and literally kicking, and within</p> <p>3 several minutes of being placed in the prone</p> <p>4 position, he was dead. So there's a very good</p> <p>5 metabolic and medical reason for why that occurred.</p> <p>6 Q. What is that? The acidosis?</p> <p>7 A. The progressive acidosis, because, all of a</p> <p>8 sudden, the patient was unable to exhale sufficiently</p> <p>9 and maximally to offset the severe acid production in</p> <p>10 his body.</p> <p>11 Q. So the weight on the subject is not a</p> <p>12 factor in your opinion that he died of restraint</p> <p>13 asphyxia?</p> <p>14 MR. NICK DAVIS: Object to the form.</p> <p>15 A. I think it's likely a contributor. I can't</p> <p>16 quantify that. As I mentioned, the weight on the</p> <p>17 patient's extremities is tying his torso down to the</p> <p>18 concrete. As the patient is trying to breathe, he</p> <p>19 obviously has to move his chest and his abdomen</p> <p>20 somewhere to let the air in, and if all of his</p> <p>21 extremities are being tied to the ground, that makes</p> <p>22 it harder to do that.</p> <p>23 So you can't ventilate properly. As I</p> <p>24 mentioned, pretty much everybody, in all of the</p> <p>25 published studies, agrees that there is reduced</p>
<p style="text-align: right;">Page 75</p> <p>1 MR. NICK DAVIS: Objection to form and</p> <p>2 foundation. Well, objection, form.</p> <p>3 A. And we almost never restrain people in the</p> <p>4 prone position.</p> <p>5 Q. Well, that's not my question. When you're</p> <p>6 trying to restrain someone, you try to work with</p> <p>7 their extremities, regardless of if they're prone or</p> <p>8 supine or on their side, right?</p> <p>9 A. Yes. I mean, I don't follow that comment</p> <p>10 very well, because we were just talking about putting</p> <p>11 weight on extremities. So we rarely put much weight</p> <p>12 on extremities.</p> <p>13 Q. Right. And then I may have had an unlovely</p> <p>14 segue here, but I'm asking both -- I was asking about</p> <p>15 regions where weight was placed and on what body</p> <p>16 parts. And that's where I was asking, in the</p> <p>17 emergency room setting, if you're having to restrain,</p> <p>18 you try to keep the weight on the extremities, rather</p> <p>19 than on the torso, correct?</p> <p>20 MR. NICK DAVIS: Object to the form.</p> <p>21 A. I think that's fair.</p> <p>22 Q. How did you calculate and determine that</p> <p>23 Daniel Turner died from restraint asphyxia without</p> <p>24 knowing what the weight values would be estimated at?</p> <p>25 A. The weight values really aren't important</p>	<p style="text-align: right;">Page 77</p> <p>1 ventilation when you are in this situation.</p> <p>2 Q. Which studies are you referring to, Doctor?</p> <p>3 A. Well, I'll refer you to just two, for</p> <p>4 example.</p> <p>5 Okay. So I'll talk about Dr. Bilke's</p> <p>6 restraint position and positional asphyxia article</p> <p>7 where, in his discussion, he states that, "Associated</p> <p>8 with these drops in lung volumes was a</p> <p>9 corresponding 23 percent decrease in percentage of</p> <p>10 predicted maximum ventilatory volume."</p> <p>11 Q. Was he talking about a particular weight</p> <p>12 ratio or value in the positional asphyxia scenario in</p> <p>13 that article?</p> <p>14 A. No.</p> <p>15 Q. Okay. Anything else?</p> <p>16 A. And then, in a second article that I will</p> <p>17 refer you to, which was a review article by Barnett,</p> <p>18 B-a-r-n-e-t-t -- it's got a long title, but it starts</p> <p>19 off as "A review of the scientific literature related</p> <p>20 to the adverse impact of physical restraint."</p> <p>21 In that discussion section, after reviewing</p> <p>22 all of the literature on this topic, he states that,</p> <p>23 "The evidence that restraint position can reduce</p> <p>24 ventilatory function is unequivocal."</p> <p>25 Q. Regardless of values of weight?</p>

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1 A. Yes.

2 Q. Did you rely on the work of Daniel Reay,
3 R-e-a-y, at all in your review of literature to form
4 opinions?

5 A. I can -- what was -- not that I recall.

6 Q. Okay.

7 Are you waiting for me, or are you looking
8 at a document, Doctor? I'm sorry if I --

9 A. I believe I'm waiting for you.

10 Q. Oh, all right.

11 So, other than Dr. Bilke's restraint
12 asphyxia article, Burnett's review with the long
13 title, and Dr. Hicks, are you relying on any other
14 studies to draw your opinions?

15 MR. NICK DAVIS: Object to the form.

16 A. We're getting some kind of pretty bad
17 feedback on the Zoom call at this point.

18 The studies that I mentioned earlier were
19 those that I relied upon.

20 Q. Did Dr. Bilke's research show that a prone
21 restraint position caused hypoxia?

22 A. No.

23 Q. Did Dr. Hicks' research indicate that a
24 prone restraint position caused hypoxia?

25 A. I don't think they assessed that, to my

1 Q. Which studies?

2 A. Well, the Hicks study is a good example of
3 the one that I'm referring to.

4 Q. Does the Hicks study, in your memory, show
5 that the prone position can cause someone to
6 asphyxiate?

7 A. I'll again refer to the Barnett article to
8 just give you a generally good idea.

9 Okay. Sorry. It's not the Barnett study.
10 I'm going to refer to one of the other ones that I
11 gave you, by Strommer, S-t-r-o-m-m-e-r.

12 Q. I hadn't gotten that one yet, so --

13 A. It's in my statement.

14 Q. All right. Thanks.

15 A. So this is a published article from
16 August 22nd of 2020, so just a couple of weeks ago,
17 where she, once again, has reviewed all of the
18 literature on this topic, and in her conclusion, she
19 states that, "Restraint-related asphyxia must be
20 considered a likely cause of death."

21 Q. In a particular case or in a case study? I

22 don't exactly understand the conclusion. Whenever

23 you look at someone who has been restrained and died?

24 A. Yes. She says, "There is no evidence to
25 support excited delirium syndrome as a cause of death

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1 understanding.

2 Q. How about the case study or review by
3 Dr. Barnett?

4 A. I don't believe -- I certainly didn't
5 interpret any evidence of hypoxia from his review of
6 the scientific literature.

7 Q. Did Dr. Bilke's research show that the
8 prone position could cause someone to asphyxiate?

9 A. I didn't quite hear all of that. Could you
10 rephrase it?

11 Q. Of course. Did Dr. Bilke's research show
12 that the prone position could cause someone to
13 asphyxiate?

14 A. I would say that, in his healthy
15 volunteers, he was not able to demonstrate that the
16 prone position could cause someone to asphyxiate.

17 Q. How about --

18 A. I also have significant methodological
19 concerns about the ability to externally apply those
20 results.

21 Q. And there aren't any studies that show
22 that, in the field, the prone position can cause an
23 agitated meth user to asphyxiate?

24 A. Well, I think there are studies that
25 suggest that.

1 in the absence of restraint, and, thus,
2 restraint-related asphyxia must be considered a
3 likely cause of death."

4 Q. Okay.

5 A. And this is as a result of her review of
6 all of the world's literature on this topic.

7 Q. Other than the studies mentioned in your
8 report and the three that you've mentioned today,
9 what other papers have been published looking at
10 restraint impact on human physiology?

11 A. I don't have a list of those for you.

12 Q. Are you familiar with the work of Dr. Chan?

13 A. Yes, a colleague of Dr. Bilke's.

14 Q. Are you familiar with the work of
15 Dr. Neuman, N-e-u-m-a-n?

16 A. I believe they all work together, because
17 they all have several papers together on this topic.

18 Q. Are you familiar with the work of
19 Dr. Schmidt?

20 A. Not individually.

21 Q. Have you reviewed their work?

22 A. I've reviewed several of their papers.

23 Q. Can you explain the basic study methods and
24 findings of the work of those individuals? You said
25 you had significant methodological concerns. I'd

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1 I like to explore those.

2 A. Okay. So, in general, what I would say is
3 that they have performed studies on healthy
4 individuals performing exercise and have determined
5 that placing them in restraint positions has not
6 caused any significant decline in their physiologic
7 function.

8 They also, as I have mentioned, have
9 clearly demonstrated a reduction in ventilatory
10 capacity, meaning that patients reduce their ability
11 to eliminate carbon dioxide from their system.

12 Q. Anything else? Any other problems you have
13 with the basic study methods and findings?

14 A. It's the external validity that is the main
15 concern. They are trying to study patients who are
16 high on drugs and agitated and acidotic, and they
17 aren't studying that population of patients. So we
18 can't apply those results to a patient like
19 Mr. Turner.

20 Q. Who has studied that population?

21 A. That would be a difficult study to perform,
22 but Hicks is one of the people who actually did take
23 measurements from this population of patients, which
24 is why I find that study to be so valuable.

25 Q. But he was doing -- was he doing postmortem

1 research base?

2 A. That is the Hicks study. So they
3 performed pH analysis on patients who were agitated
4 and had been in restraints.

5 Q. But not high on methamphetamines?

6 A. Yes, high on stimulant drugs.

7 Q. Okay. Stimulants.

8 A. So some of them were cocaine. I'm not sure
9 if they measured methamphetamine then or not.

10 Q. Did Dr. Hicks' study find that handcuffed
11 patients or restrained patients who are agitated and
12 high on stimulants resulted in death?

13 A. Yes.

14 Q. How many? What percentage, or what was his
15 conclusion?

16 A. Well, so a reminder that this is 20 years
17 old. So what they presented was a series of cases
18 where four out of five of the patients that they
19 presented died, and they said, in conclusion, that as
20 their awareness of these cases has grown, none of the
21 subsequent patients treated has experienced cardiac
22 arrest.

23 They also stated that there had been no
24 case of restraint death in their institution in which
25 the patient was not acidotic.

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1 measurements, or what was his population?

2 A. His population is ER patients that were --
3 had been in restraints.

4 Q. Not necessarily agitated methamphetamine
5 users?

6 A. Most of the patients in his study were
7 cocaine users, which is a very similar physiologic
8 effect.

9 Q. Did Dr. Hicks' study show -- I think you've
10 answered this already -- that a restraint position
11 results in hypoxia?

12 A. Their study was about assessing the
13 acidosis that is happening during these episodes.

14 Q. So he did not find that restraint caused
15 hypoxia?

16 A. No, that wasn't --

17 MR. NICK DAVIS: Object to form.

18 A. That wasn't a part of the research.

19 Q. Did his study show that the restraint
20 position resulted in ventilatory failure?

21 A. I don't believe so, no.

22 Q. Are there any studies showing CO2 levels and
23 pH levels in a handcuffed patient who is agitated and
24 high on meth? I think we've talked around that, but
25 is there a study that has that population as the

1 Q. So all of their restraint deaths involved
2 acidotic patients in the emergency room setting in
3 the Hicks study?

4 A. That's correct.

5 Q. But in that study, did Dr. Hicks study the
6 application of weight raising CO2 levels or dropping
7 pH levels --

8 A. No.

9 Q. -- or a prone position? And that might not
10 have been a good question. Did Dr. Hicks' study
11 indicate that restraint position resulted in
12 ventilatory failure if someone was restrained in a
13 prone position?

14 A. No.

15 Q. So those were not aspects that he looked
16 at?

17 A. That's exactly correct.

18 Q. He was just looking at the presence of
19 lactic acid function?

20 A. He was looking at the acidosis, that's
21 correct, and using his Emergency Department patients
22 to demonstrate the actual underlying process that was
23 causing the patient's demise.

24 Q. Okay. Thank you for that clarification.

25 Let's go back to Daniel. When Daniel was

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1 A. Basically, there's no indication that he
 2 has any consciousness once he stops moving.
 3 Q. So, if we have a timeline, does a person --
 4 and let's use Daniel as our example -- lose
 5 consciousness, stop breathing, and then their heart
 6 stops, or in what order do those functions leave?
 7 A. So it can happen all at once. Probably, I
 8 can think of a scenario where any one of them went
 9 first, but the most common scenario would be that the
 10 mental status declines, to the point of
 11 unconsciousness. And most often, the second thing
 12 that will stop will be the breathing, and then,
 13 typically, the cardiac function will stop.
 14 Q. Is that what you observed or believe you
 15 observed when you watched the video of
 16 Daniel Turner's demise?
 17 A. Yes.
 18 Q. Was weight on him when he lost
 19 consciousness, based on your observations?
 20 A. Yes.
 21 Q. Where was the weight placed on him when he
 22 lost consciousness?
 23 A. As I mentioned, it seems that it was mostly
 24 on his extremities.
 25 Q. Was weight on him when his breathing

1 A. Yes. I believe he lost consciousness
 2 because he was unable to compensate for his acidosis.
 3 Q. Is your answer the same for whether the
 4 position mattered when he stopped breathing?
 5 A. Yes.
 6 Q. And the same for when his heart stopped
 7 beating?
 8 A. Yes.
 9 Q. Was he prone, in your opinion, when his
 10 heart stopped?
 11 A. Yes.
 12 Q. Was he prone, in your opinion, when his
 13 breathing stopped?
 14 A. Yes.
 15 Q. Was he prone, in your opinion, when he had
 16 loss of consciousness?
 17 A. Yes.
 18 Q. Do you believe he had loss of consciousness
 19 when he was supine and before he was handcuffed, at
 20 the time that --
 21 A. No.
 22 Q. -- he was in -- the blows were
 23 administered?
 24 A. No.
 25 Q. You don't think he lost consciousness at

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1 stopped?
 2 A. Yes.
 3 Q. The same? Mostly on his extremities or an
 4 attempt to keep it on his extremities?
 5 A. Yes.
 6 Q. Was weight on him when cardiac function
 7 stopped?
 8 A. Yes.
 9 Q. At all three points, you're saying that he
 10 still had weight on him?
 11 A. Yes.
 12 Q. So you're saying that cardiac functions
 13 stopped before he was unhandcuffed and rolled over
 14 and CPR begun?
 15 A. That's the most likely scenario, yes,
 16 because it only took a few seconds to uncuff him and
 17 roll him over, and he had no pulse at that time.
 18 Q. Did the position matter?
 19 MR. NICK DAVIS: Object to the form.
 20 A. Did what position matter?
 21 Q. Did Daniel Turner's position matter when he
 22 lost consciousness?
 23 MR. NICK DAVIS: Object to the form.
 24 A. Yes.
 25 Q. And why?

1 that point?
 2 A. No. He was still struggling.
 3 Q. If he had been supine, is it your opinion
 4 that he would have not lost consciousness?
 5 A. I believe so, yes.
 6 Q. Why is that?
 7 A. Because he would have been able to
 8 compensate for his acidosis.
 9 Q. Is that your same opinion regarding his
 10 breathing?
 11 A. Yes.
 12 Q. And the same for his cardiac arrest?
 13 A. Yes.
 14 Q. If he had been on his side, would he have
 15 been able to compensate for acidosis, in your
 16 opinion?
 17 A. I think that's also likely, that he would
 18 have been able to compensate.
 19 Q. And he would have been able to compensate
 20 for ventilatory failure?
 21 MR. NICK DAVIS: Object to the form.
 22 A. There wouldn't have been any restriction on
 23 his ventilatory function.
 24 Q. If he was on his side?
 25 A. If he was on his side, or at least it

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1 would --

2 Q. Was he on his side?

3 A. It probably doesn't have any meaningful

4 difference between sides.

5 Q. And the same for cardiac arrest?

6 A. Yes.

7 Q. Okay. Let's talk about Daniel. If the
8 subject had a significant amount of weight on his
9 back -- which I think you've testified you did not
10 see that, correct?

11 A. Correct.

12 MR. NICK DAVIS: Form.

13 Q. If that significant amount of weight on his
14 back was enough to impede ventilation, what happens
15 when the weight is removed?

16 A. When -- he should have some ability to
17 breathe better if there is less weight on his back.

18 Q. Would Daniel Turner have had cardiac arrest
19 in a delayed fashion from asphyxia if there had been
20 weight on his back that was removed?

21 MR. NICK DAVIS: Object to the form.

22 A. I'm not sure I'm following that one.

23 Q. Well, this is kind of an odd scenario,
24 Doctor. So I'm going back to some testimony of the
25 Turners', his parents, who said that, at one point,

1 on Daniel Turner's back, with weight?

2 MR. NICK DAVIS: Asked and answered.

3 A. What I saw was police officers that seemed
4 to be attempting to place weight on his extremities,
5 and the weight on the extremities is going to tie his
6 torso down to the ground, making it difficult --
7 making it more difficult than without that weight to
8 breathe. But I didn't see anybody on his back, for
9 instance.

10 Q. And you never saw a time where four people
11 were on his back, let alone just one?

12 A. Well, all four of those officers are sort
13 of hovering in close proximity. So I think -- so I
14 understand what they were talking about.

15 Q. And you never saw a time in the video where
16 four police officers simultaneously had weight on
17 Daniel Turner's torso during the interaction with
18 him?

19 A. I agree.

20 Q. Have you ever treated someone, a football
21 player, who had a bunch of weight on him at the
22 bottom of a pile, whose ventilation was impeded?

23 A. I'm not sure that I have.

24 Q. In that scenario, would the football player
25 at the bottom of a dog pile -- would you expect that

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1 four adult men were on Daniel's back. If that was
2 the case, I'm asking you these questions.

3 A. Okay.

4 Q. And I, like you, believe that the video
5 does not show that. Correct?

6 A. I agree.

7 Q. So if that was the case, that four men were
8 on Daniel's back, full weight, and that weight was
9 removed and there was no physical damage from the
10 weight, would he have had cardiac arrest in a delayed
11 fashion from asphyxia, anyway?

12 A. Yes.

13 Q. Why do you say that?

14 A. Because that's what happened.

15 Q. Wait, wait. Did you see four men having
16 their full weight on Daniel Turner's back at any time
17 in the video?

18 A. No, and maybe I misspoke. What I'm saying
19 is that what happened is that he was lying prone in
20 restraints, and he had a cardiac arrest. So whether
21 the police got off his back or -- if the police got
22 off his back, he still would have had the cardiac
23 arrest.

24 Q. I think that maybe we can go back to a
25 beginning thing. You never saw four police officers

1 person to have cardiac arrest from asphyxia?

2 A. I think that would be pretty rare.

3 Q. Is that because you believe that the
4 agitated state is a contributing factor, and the
5 other underlying medical conditions, in Daniel's
6 case?

7 A. It's more the severity of the acidosis
8 that's the problem.

9 Q. So you've never heard of that scenario,
10 where a football player with a bunch of weight on him
11 or an athlete with a bunch of weight on him who had
12 ventilations impaired had cardiac arrest and --

13 A. I don't think I've ever heard of that.

14 Q. And I think that you've already clarified
15 this, but when a person is struggling and fighting,
16 that increases the amount of lactic acid they're
17 producing, right?

18 A. Correct.

19 Q. And that increases acidosis. Acidosis is
20 the increase of lactic acid, from my lawyer point of
21 view?

22 A. Basically, yes.

23 Q. Does lactic acid production occur -- and I
24 think you've already said this. It occurs during
25 exercise, right?

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1 A. Yes.

2 Q. Does acidosis act as an irritant to the
3 heart?

4 A. Yes.

5 Q. And it can increase the risk of cardiac
6 arrest?

7 A. Definitely.

8 Q. Regardless of whether you're on meth or if
9 there are police in the area?10 A. Yes, regardless of that. It's the degree
11 of the acidosis. So, to your previous example, you
12 know, there aren't a whole lot people that run
13 marathons that die. That's because they're able to
14 compensate for their acidosis.15 Q. So does a person who is running or
16 wrestling or struggling produce more lactic acid if
17 their large muscle groups are not being used to full
18 capacity?19 A. If they aren't using -- the more you use
20 your muscles, the more lactic acid you will produce.21 Q. And the big muscles produce more lactic
22 acid than the smaller muscles? Like, I can flex my
23 glutes by running, running, running, and it will
24 produce more lactic acid than if I do this to my
25 hand.1 person sitting here, I can't produce lethal doses of
2 lactic acid in my system, no matter how much I am
3 moving and running, or whatever?4 A. Typically, you will compensate well for
5 that situation. What they found in the Hicks article
6 was that the agitated, intoxicated patients are able
7 to induce a more profound acidosis.8 Q. So agitated people are at risk for
9 acidosis, more than the average population?

10 A. Yes.

11 Q. What other factors increase a person's risk
12 of lethal levels of acidosis?13 A. All of those medical conditions that we
14 talked about earlier, sepsis and diabetic
15 ketoacidosis and traumas. All kinds of things can
16 make you have severe levels of acidosis.17 Q. So if you layer those, Doctor, like if you
18 have DKA and you've been in an accident, does that
19 compound exponentially your likelihood of dying of
20 acidosis?21 MR. NICK DAVIS: Object to the form of the
22 question.23 A. I wouldn't say it's exponential, but they
24 clearly -- they are additive, at least.

25 Q. And that's for the contributing factors

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1 A. Yeah, it's simply the amount of muscle
2 activity. The more muscle activity you have, the
3 more lactic acid you will produce.4 Q. Are there any studies that demonstrate that
5 a person who is restrained can't consume as much
6 oxygen as a person who is running?

7 A. I don't know if there are any such studies.

8 Q. Okay. This is a scenario which you get to
9 do because you're an expert. If two people, exactly
10 the same little doppelgangers, are exercising to
11 maximum effort -- one is restrained and struggling to
12 maximum effort, and one is running. Are we good on
13 the scenario here?

14 A. You're talking about healthy people?

15 Q. Yes, two people exactly the same, whether
16 they're both healthy or whether they're both agitated
17 meth users.

18 A. Okay.

19 Q. It doesn't matter to me. But they're the
20 same, and one is restrained, and one is running.21 A. Those aren't different populations to me.
22 So the healthy individuals aren't typically able to
23 produce the amount of lactic acidosis that people who
24 are intoxicated are able to produce.

25 Q. Oh, tell me about that. So as a healthy

1 that you described in Daniel Turner's death as well,
2 right? They're additive?

3 A. Yes, I agree.

4 Q. So if we have these two people, one
5 restrained and one running, wouldn't the amount of
6 oxygen needed by the restrained person be less than
7 the oxygen needed by the person who is active?8 A. I don't have a definitive answer for you,
9 but I could guess.10 Q. But is there research that indicates that a
11 restrained person uses less oxygen than a running
12 person?

13 MR. NICK DAVIS: Object to the form.

14 A. I don't agree with that fundamental
15 premise, and there is likely to be some excellent
16 research from exercise physiologists on this topic,
17 but I am not aware of it.18 Q. What don't you agree with in the premise,
19 that a resting person uses less oxygen than a running
20 person?21 A. Well, they aren't resting. They're using
22 their muscles just as much as the running person is.
23 So you've described two similar situations, where
24 people are equally using their muscles. So, if
25 you're equally using your muscles, you should need an

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1 equal amount of oxygen.

2 Q. But it's just the muscle use is different,
3 different --

4 A. You're saying it's static muscle use, but
5 that still consumes energy and resources. And you
6 need oxygen to fuel that energy, and the lactate is
7 produced, and you need that to offset with
8 ventilation, typically.

9 Q. And you suspect that there's some articles
10 in the exercise physiology literature, but you're not
11 familiar with them?

12 A. Yes. I mean, this is obviously an active
13 area of research with professional sports leagues and
14 such. So I imagine there are plenty of articles on
15 this topic.

16 Q. Back to the studies, and they may be
17 irrelevant, since you did not see weight on
18 Daniel Turner's back. Have you seen studies, besides
19 the ones that you've already mentioned, looking at
20 the physiological weights on the backs of individuals
21 in a prone position?

22 A. Yes, I have.

23 Q. Tell me about that. Who?

24 A. One of the ones that Dr. Bilke produced
25 with his colleague, Dr. Chan. I don't have that in

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1 ventilatory failure?

2 A. No. They all show that there's a reduction
3 in ventilatory function.

4 Q. What else results in ventilatory function?
5 Don't we do activities every day that can result in
6 ventilatory function, decreases?

7 A. I mean, probably smoking cigarettes or
8 something will eventually reduce your ventilatory
9 function.

10 Q. Does wearing Spanx reduce your ventilatory
11 function? You probably don't have that issue, but --

12 MR. NICK DAVIS: Object to foundation.

13 A. I doubt that that reduces it in any
14 substantial way.

15 Q. Okay. You've never had Spanx on, clearly.

16 A. Maybe. Maybe I'm underestimating their
17 strength.

18 Q. You might be.

19 What's the most weight that you've seen
20 placed on the back of study subjects in any of these
21 studies where respiratory function was being
22 answered?

23 A. Oh, gosh. I want to guess that maybe as
24 much as 250 pounds was put on somebody's back. I
25 really can't be certain. I read those. I saw that

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1 front of me. I saw some other ones, as well.

2 Q. What were the findings of that study that
3 you remember?

4 A. In general, that if you take healthy
5 volunteers and you put weight on their back while
6 they're being restrained, they couldn't measure any
7 significant changes, other than from the decline in
8 the ventilatory capacity.

9 Q. And you've already described what you found
10 to be your criticisms of the basic study methods and
11 findings of that study?

12 A. Yes, the external validity.

13 Q. Are there any other problems that you have
14 on the basic study methods and findings?

15 A. No.

16 Q. And any study that you saw that showed that
17 restraint results in ventilatory failure or hypoxia?

18 A. Those are two different things.

19 Q. Correct, and I'm sorry that I made a
20 compound question. Let me separate it out. Do any
21 of those studies that you've seen or referred to show
22 restraint position results in hypoxia?

23 A. No.

24 Q. Do any of those studies that you've read or
25 referred to show that restraint position results in

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1 in passing. If you really want me to look it up, I
2 probably could, but --

3 Q. Is it in one of the articles that you've
4 referred us to already?

5 A. Yes.

6 Q. Okay. It's not something outside of the
7 literature that you've already discussed with me?

8 A. No.

9 Q. Can you define the distinction -- and this
10 is for me -- between a cardiac event and an
11 asphyxiational event?

12 A. I guess what I would say is that one leads
13 to the other. So asphyxiation is either a reduction
14 in oxygen or an increase in carbon dioxide to an
15 extent that causes such a severe metabolic problem,
16 it will lead to cardiovascular collapse.

17 Q. You said one leads to the other. Can an
18 asphyxial event lead to a cardiac event?

19 A. That's typically what exactly I'm
20 describing.

21 Q. Can a cardiac event lead to an asphyxial
22 event?

23 A. It's hard to imagine how that would happen
24 if you define a cardiac event as cardiac arrest. So,
25 at the time of cardiac arrest, there's no more blood